

**AMENDMENTS TO THE SPECIFICATION**

Page 6, last paragraph to the top of page 7, please amend as follows:

The breakdown probability curve 50 of the reference insulative composition currently used in the best submarine telecommunication cables is shown in figure 5 using the Weibull presentation. This polyethylene is the 47100 UV polyethylene from ATOFIINA. It has an MFR of 0.05 g/10 min. The intrinsic breakdown field is of the order of  $\exp(6.22) = 500$  kB/mm. The quantity and/or the harmful effects of the defects is characterized by the slope of the straight line.

The slope, denoted  $\square\beta$  in Weibull analyses, here has the value  $\square\beta = 5.6$ .

Page 7, first full paragraph, please amend as follows:

Figure 4-5 compares the breakdown probability curve 50 of the reference insulation to the breakdown probability curves 51 and 52 of the same insulation respectively containing 5% and 10% of a much more fluid polyethylene having an MFR of 22 g/10 min. Note that the slope of the Weibull straight line increases, which means that the number and/or the harmfulness of the defects decreases. The intrinsic quality of the insulation appears to be improved by the addition of these quantities of fluid polyethylene. The slope  $\square\beta$  is 7.3 when 5% of the fluid polymer is added and 9.3 when 10% of fluid polymer is added.

Third through fifth paragraphs, please amend as follows:

This result is of great benefit for the application to submarine telecommunication cables because in this application the operating electric field is low. Given the difference between the

geometry of the cable and the test geometry, the equivalent field of the cable in operation is much less than 200 kV/mm, i.e.  $\frac{InE}{E}$  is much less than 5.4, and figure 4-5 shows that, in this area, the breakdown probability is lower for the mixture containing 10% fluid polymer.

Figure 4-5 also shows that the addition of the fluid polymer slightly degrades the intrinsic dielectric strength of the reference polyethylene. This has no practical effect in this type of application because it occurs at electric fields that do not correspond to the working electric fields of the cable. It may be explained by the incorporation into the insulation system of defects in the fluid polymer.

Figure 5-6 shows the breakdown probability curve 50 of the reference polyethylene compared to the breakdown probability curves 52 and 53 for the same polyethylene with 10% and 20% of fluid polymer added, respectively. Note that in this instance adding a large quantity of fluid polymer does not further improve the electrical properties of the mixture. This is explained by the contribution of defects in the fluid polymer to the breakdown phenomenon.